

Supplementary Material 1: Checklist for reporting an IPDMA. *Relative to the research question of interest, different plots might apply, showing examples if the research question of interest is dosing evaluation BQL = Below quantification limit; GOFs – Goodness of fit plots; LOQ = Limit of quantification; VPC = Visual predictive check.

Search		Research question of interest <i>Report the research question and rationale</i>
		Process used to identify relevant studies <i>Mention databases searched, search queries, and predefined criteria</i>
		Number of authors/sponsors/data sharing platforms initially approached for data <i>Consider including a CONSORT-type flow diagram</i>
		Number of authors/sponsors that did not provide data and reasons why <i>Discuss briefly possible impacts on results and conclusions</i>
		Number of authors/sponsors/data sharing platforms who provided data and if the whole set was provided or not <i>Cite platforms and publications for transparency</i>
General		Patient characteristics, overall and by study <i>Report these results for the reader to understand similarities and differences between study populations</i>
		Study characteristics, specific technical details (sampling, timing of sampling, LOQ, etc) <i>Report these results for the reader to understand similarities and differences between study technical aspects</i>
		Missing data and how that is handled <i>Discuss methods of handling missing data, possible implications for bias, and how to mitigate</i>
		Detailed report of the modelling and statistical analysis <i>Specify a reproducible step-wise analysis plan for full transparency</i>
Visual Exploration		Overall available data <i>Visualize data included in the analysis on all relevant dimensions (e.g. concentration over time, BQL over time)</i>
		Available data by stratifications of interest (studies, relevant covariates) <i>Demonstrate similarities or differences in observations by strata of interest (at least per study, also e.g. by sex or age)</i>
Model Diagnostics		Overall VPC <i>Show appropriate model across full data, with prediction-corrected VPC in case of large concentration ranges</i>
		VPC per study <i>Show appropriate model per study, discuss possible misfits per study including implications</i>
		VPC per covariate of interest <i>Stratify VPC by dose in case of different doses, also e.g. by sex or age</i>
		Overall GOFs <i>Show appropriate model across full data, consider log-transforming PRED/IPRED vs OBS in case of large concentration ranges</i>
		GOFs highlighting studies/per study <i>Show appropriate model per study, discuss possible misfits per study including implications</i>
		Overall residual plots <i>Show appropriate model across full data</i>
		Residual plots per study <i>Show appropriate model per study, discuss possible misfits per study including implications</i>
Main Findings*		Overall exposure evaluation <i>Report model-predicted exposure, compare to possible target, discuss similarities or differences with original studies</i>
		Exposure evaluation per covariate of interest <i>Discuss similarities or differences in model-predicted exposure per covariate of interest including implications for dosing</i>
		New dosing recommendations <i>Propose new dosing recommendation(s) justified by model-predicted exposure, covariates, and targets</i>
		Proportion of patients achieving target thresholds in different dosing recommendations <i>Report proportion achieving targets so the reader can compare dosing strategies</i>